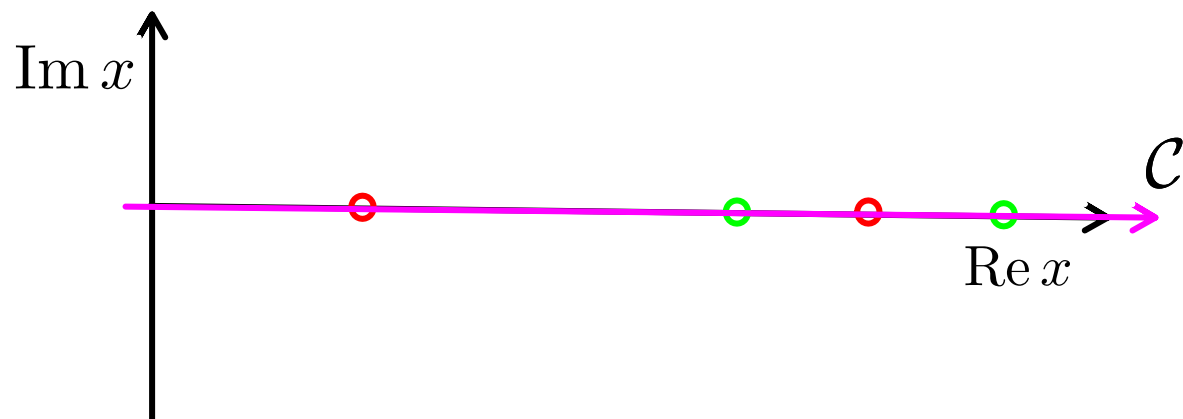
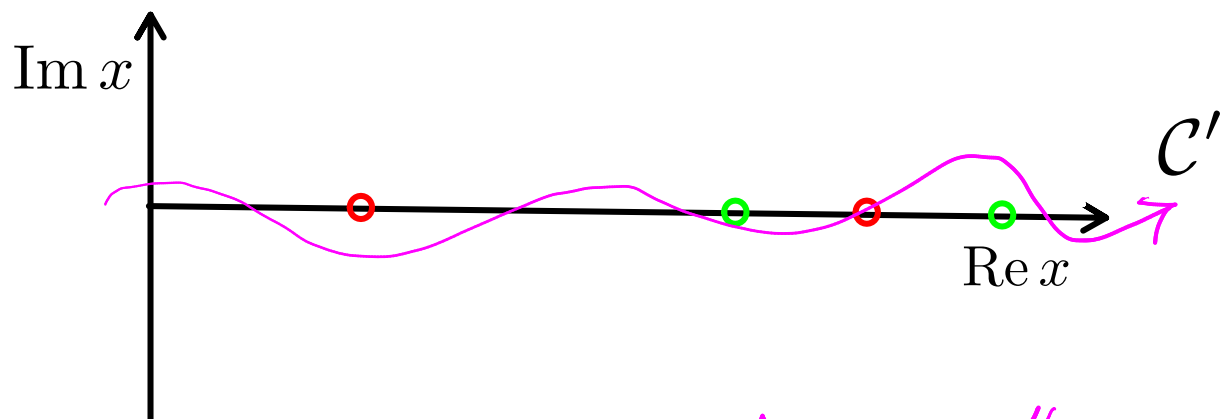


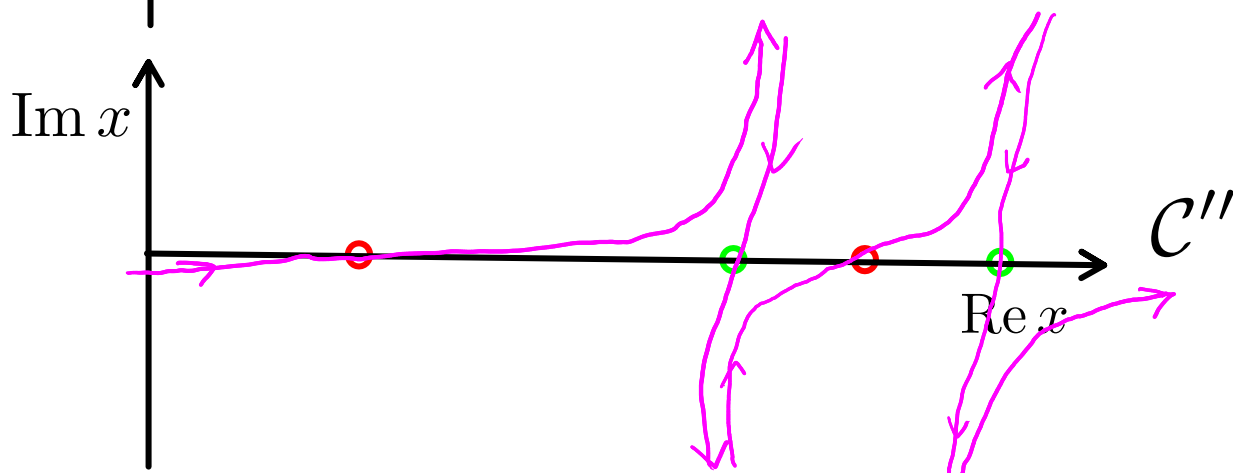
$$Z(\beta) = \int dx e^{-\beta S(x)}$$



$$Z(\beta) = \oint_C dz e^{-\beta S(z)}$$

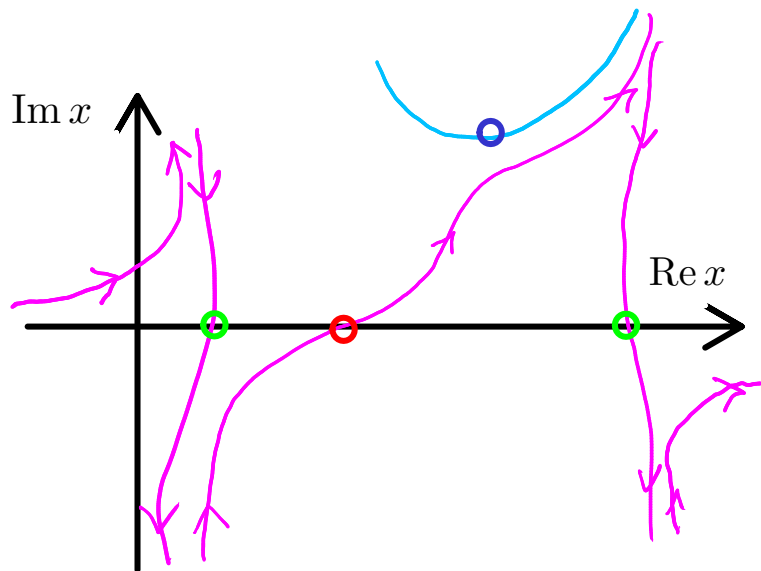


$$Z(\beta) = \oint_{C'} dz e^{-\beta S(z)}$$

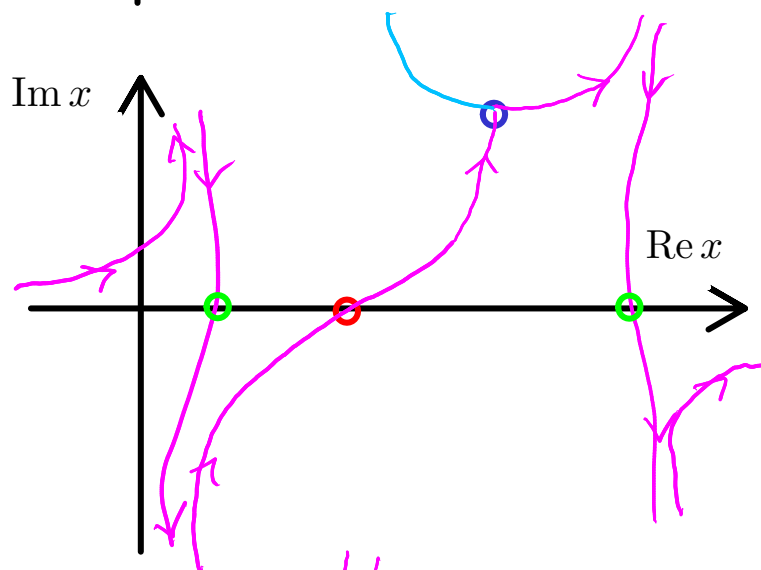


$$Z(\beta) = \oint_{C''} dz e^{-\beta S(z)}$$

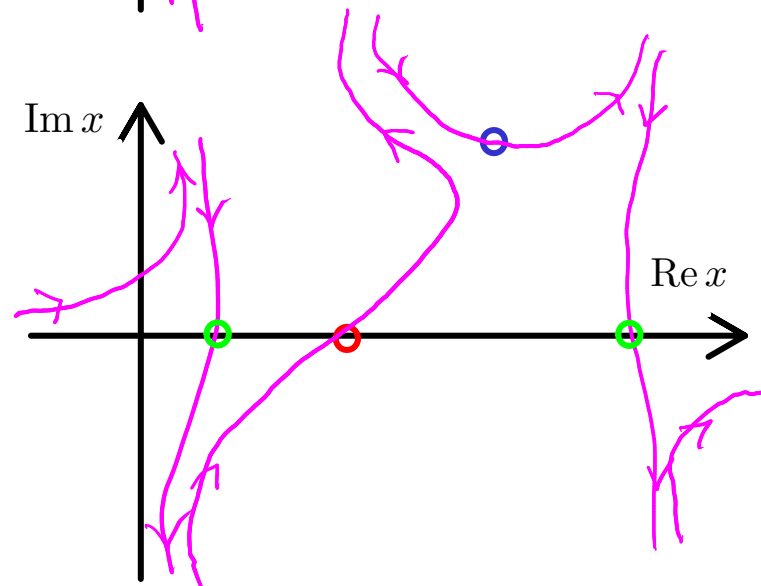
$$= \sum_{\sigma} n_{\sigma} \oint_{\mathcal{J}_{\sigma}} dz e^{-\beta S(z)}$$



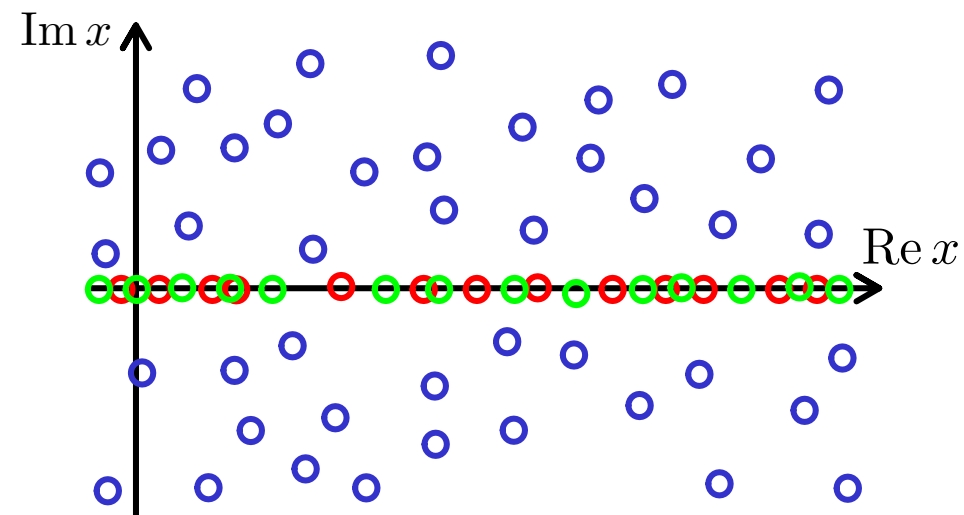
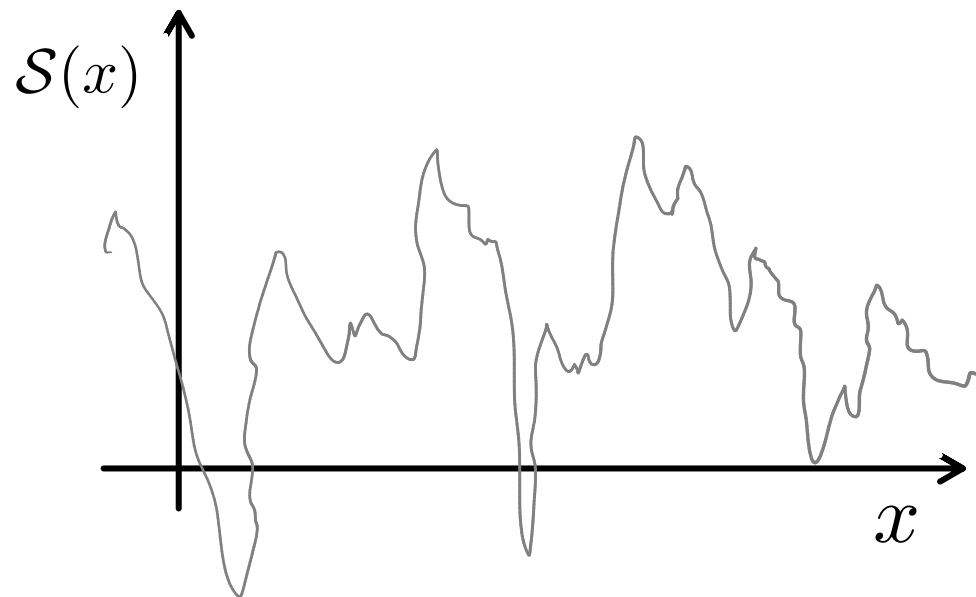
$$\mathcal{C} = \mathcal{J}_{\circ} + \mathcal{J}_{\circ} + \mathcal{J}_{\circ} + \dots$$



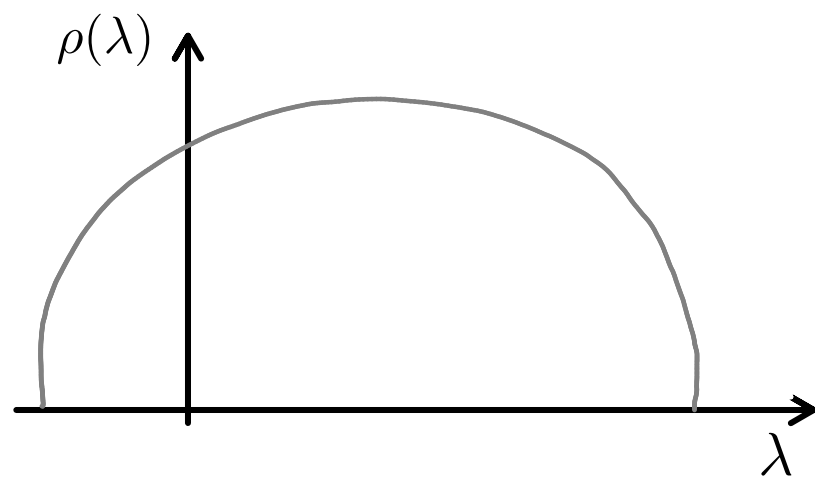
Smooth change of β



$$\mathcal{C} = \mathcal{J}_{\circ} + \mathcal{J}_{\circ} + \mathcal{J}_{\circ} + \mathcal{J}_{\circ} + \dots$$

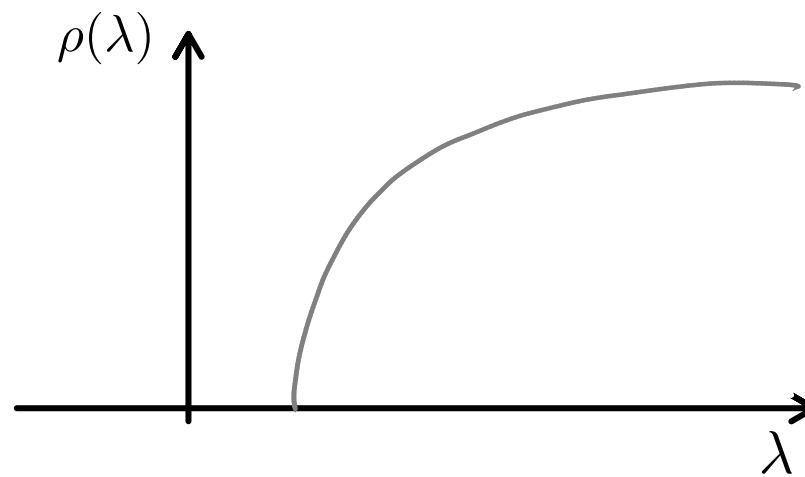


Complex complex landscapes
 Jaron Kent-Dobias & Jorge Kurchan
 Phys. Rev. Research 3, 023064



Gapless or pseudogapped spectrum:

- saddles, marginal minima, FRSB minima
- neighboring critical points can have nearby complex energies
- Stokes' points proliferate



Gapped spectrum:

- 1RSB and other minima
- neighboring critical points tend to have different complex energies
- Stokes' points are rare